

FIG. 1

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program0.dtd)

```
<?xml version="1.0"?>
<!ENTITY % types
<!ENTITY % formats

<ELEMENT contents
<IAITLIST contents
<ELEMENT par
<IAITLIST mediaObject
mediaObject type %types;
format %formats;
src CDATA
EMPTY>
segment start
segment end

}201
CDATA #REQUIRED> }202
(mediaObject+> }203
(segment+> }204
"audiovideo" }205
#REQUIRED }206
#REQUIRED> }207
CDATA #REQUIRED }208
CDATA #REQUIRED>
```

FIG. 2A

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM "http://mserv.com/DTD/program0.dtd">

<contents title="Movie etc.">
<mediaObject type="audiovideo" format="mpeg1" src="http://mserv.com/MPEG/movie0.mpeg">
<segment start="00:00:00" end="00:01:00"/>
<segment start="00:01:00" end="00:02:00"/>
<segment start="00:03:00" end="00:04:00"/>
<segment start="00:04:00" end="00:05:00"/>
</mediaObject>
</contents>
```

FIG. 2B

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program0.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video" format="mpeg1" src="http://mserv.com/MPEG/movie0v.mpeg">
      <segment start="00:00:00" end="00:01:00"/>
      <segment start="00:01:00" end="00:02:00"/>
      <segment start="00:03:00" end="00:04:00"/>
      <segment start="00:04:00" end="00:05:00"/>
    </mediaObject>
    <mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00" end="00:01:00"/>
      <segment start="00:01:00" end="00:02:00"/>
      <segment start="00:03:00" end="00:04:00"/>
      <segment start="00:04:00" end="00:05:00"/>
    </mediaObject>
  </par>
</contents>

```

FIG. 3

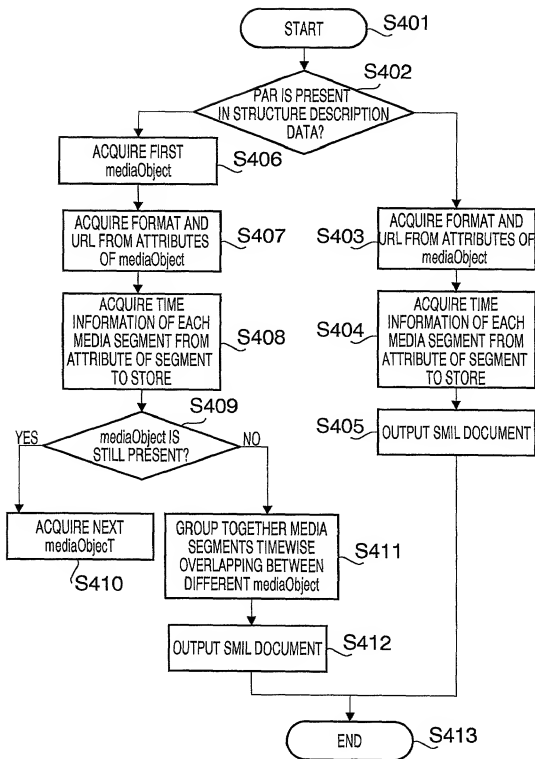


FIG. 4

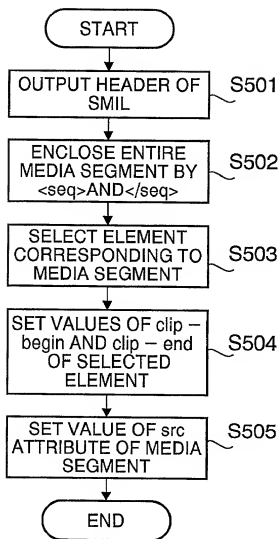


FIG. 5

```

<smil>
<head>
  [HEADER]}601
</head>
<body>
  [BODY]}602
</body>
</smil>
  
```

FIG. 6

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
  <body>
    <seq>
      <ref clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0.mpg"/>
      <ref clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0.mpg"/>
      <ref clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0.mpg"/>
      <ref clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0.mpg"/>
    </seq>
  </body>
</smil>

```

FIG. 7

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```
<smil>
  <body>
    <seq>
      <ref clip- begin="smpte=00:00:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0.mpg"/>
      <ref clip- begin="smpte=00:03:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0.mpg"/>
    </seq>
  </body>
</smil>
```

FIG. 8

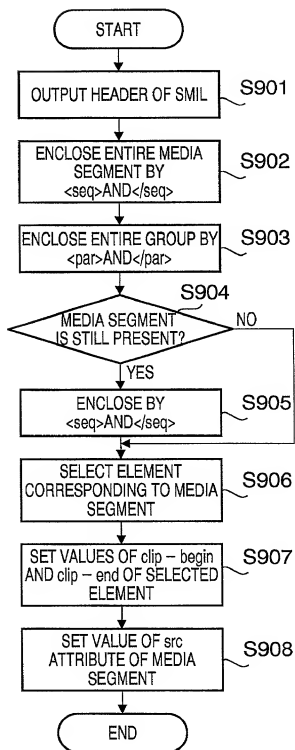


FIG. 9

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
  <seq>
    <par>
      <video clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
      <audio clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
    </par>
    <par>
      <video clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
      <audio clip- begin="smpte=00:01:00" clip- end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
    </par>
    <par>
      <video clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
      <audio clip- begin="smpte=00:03:00" clip- end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
    </par>
    <par>
      <video clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
      <audio clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
    </par>
  </seq>
</body>
</smil>

```

FIG. 10

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```
<smil>
<body>
<seq>
<par>
<video clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</par>
<par>
<video clip- begin="smpte=00:03:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:03:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</seq>
</body>
</smil>
```

FIG. 11

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<seq>
<par>
<video clip- begin="smpte=00:00:00"clip- end="smpte=00:01:00"src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio begin="10s"clip- begin="smpte=00:00:10"clip- end="smpte=00:00:40"src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:01:00"clip- end="smpte=00:02:00"src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:01:00"clip- end="smpte=00:02:00"src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:03:00"clip- end="smpte=00:04:00"src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio clip- begin="smpte=00:03:00"clip- end="smpte=00:04:00"src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par>
<video clip- begin="smpte=00:04:00"clip- end="smpte=00:05:00"src="http://mserv.com/MPEG/movie0v.mpv"/>
<audio begin="15s"clip- begin="smpte=00:04:15"clip- end="smpte=00:05:00"src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</seq>
</body>
</smil>

```

FIG. 12

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program1.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types          "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats        "(mpeg1|mpeg2|gif|jpeg)">

<!ELEMENT contents        (par|mediaObject)+> }1301
<!ATTLIST contents        title CDATA #REQUIRED> }1302
<!ELEMENT par             (mediaObject+)> }1303
<!ELEMENT mediaObject     (segment+)> }1304
<!ATTLIST mediaObject      type %types; "audiovideo" }1305
                           format %formats; #REQUIRED }1306
                           src CDATA #REQUIRED> }1307

<!ELEMENT segment        (alt*)> }1309
<!ATTLIST segment        start CDATA #REQUIRED
                           end CDATA #REQUIRED> }1308

<!ELEMENT alt            (pos?)>
<!ATTLIST alt            type %types; #REQUIRED
                           format %formats; #REQUIRED
                           src CDATA #REQUIRED> }1310

<!ELEMENT pos            EMPTY>
<!ATTLIST pos            start CDATA #REQUIRED
                           end CDATA #REQUIRED>

```

FIG. 13

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program1.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpg">
    <segment start="00:00:00"end="00:01:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
      </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:00:00"end="00:01:00"/>
      </alt>
    </segment>
    <segment start="00:01:00"end="00:02:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
      </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:01:00"end="00:01:30"/>
      </alt>
    </segment>
    <segment start="00:03:00"end="00:04:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
      </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:03:00"end="00:03:30"/>
      </alt>
    </segment>
    <segment start="00:04:00"end="00:05:00">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
      </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:04:00"end="00:05:00"/>
      </alt>
    </segment>
  </mediaObject>
</contents>

```

FIG. 14

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
          </alt>
        </segment>
        <segment start="00:01:00"end="00:02:00">
          <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
            </alt>
          </segment>
          <segment start="00:03:00"end="00:04:00">
            <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
              </alt>
            </segment>
            <segment start="00:04:00"end="00:05:00">
              <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
                </alt>
              </segment>
            </mediaObject>
          <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
            <segment start="00:00:00"end="00:01:00">
              <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                <pos start="00:00:00"end="00:01:00"/>
              </alt>
            </segment>
            <segment start="00:01:00"end="00:02:00">
              <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                <pos start="00:01:00"end="00:01:30"/>
              </alt>
            </segment>
            <segment start="00:03:00"end="00:04:00">
              <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                <pos start="00:03:00"end="00:03:30"/>
              </alt>
            </segment>
            <segment start="00:04:00"end="00:05:00">
              <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
                <pos start="00:04:00"end="00:05:00"/>
              </alt>
            </segment>
          </mediaObject>
        </par>
      </contents>
```

FIG. 15

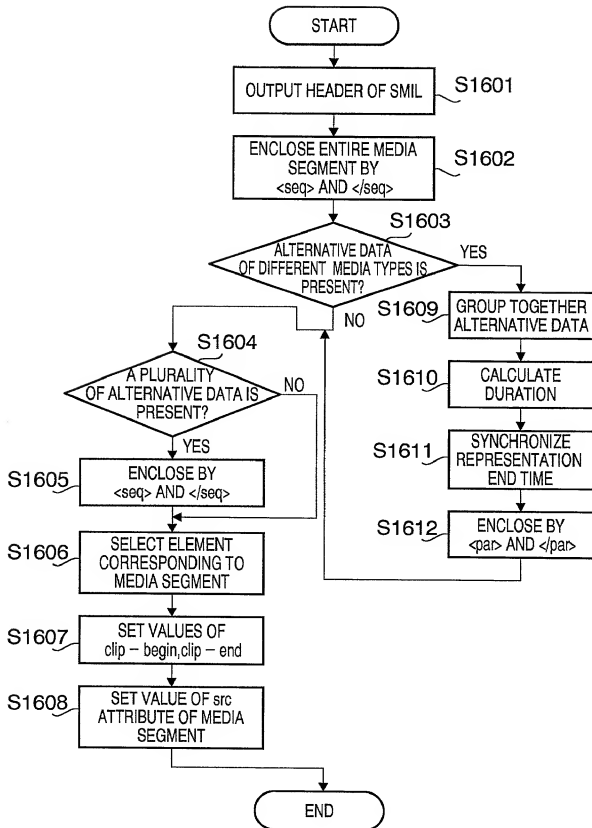


FIG. 16

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<seq>
  <par endsync="id(a0)">
    
    <audio id="a0" clip- begin="smpte=00:00:00" clip- end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
  <par endsync="id(a1)">
    
    <audio id="a1" clip- begin="smpte=00:01:00" clip- end="smpte=00:01:30" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
  <par endsync="id(a2)">
    
    <audio id="a2" clip- begin="smpte=00:03:00" clip- end="smpte=00:03:30" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
  <par endsync="id(a3)">
    
    <audio id="a3" clip- begin="smpte=00:04:00" clip- end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
  </par>
</seq>
</body>
</smil>

```

1701

1702

1703

1704

FIG. 17

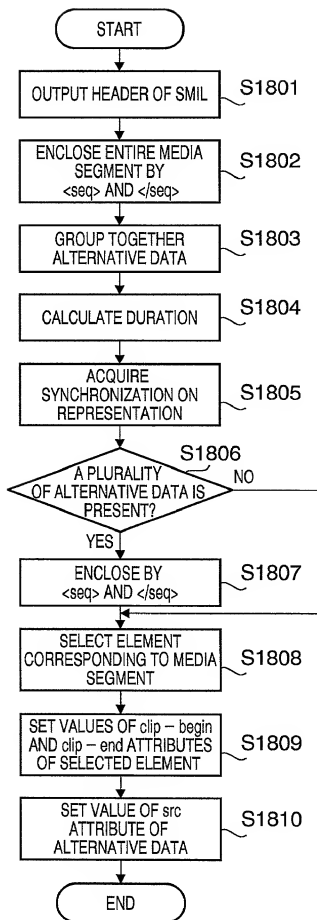


FIG. 18

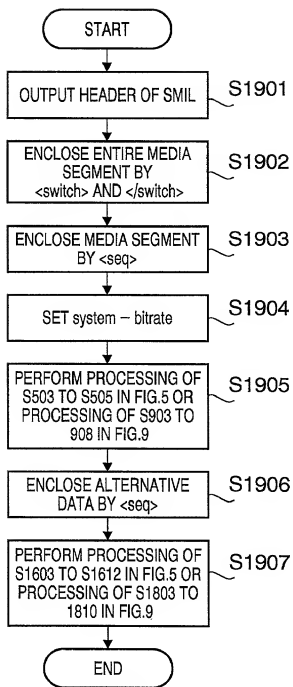


FIG. 19

EXAMPLE OF REPRESENTATION DESCRIPTION DATA

```

<smil>
<body>
<switch>
<seq system-bitrate="56000">
<ref clip-begin="smpte=00:00:00" clip-end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0.mpg"/>
<ref clip-begin="smpte=00:01:00" clip-end="smpte=00:02:00" src="http://mserv.com/MPEG/movie0.mpg"/>
<ref clip-begin="smpte=00:03:00" clip-end="smpte=00:04:00" src="http://mserv.com/MPEG/movie0.mpg"/>
<ref clip-begin="smpte=00:04:00" clip-end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0.mpg"/>
</seq>
<seq>
<par endsync="id(a0)">

<audio id="a0" clip-begin="smpte=00:00:00" clip-end="smpte=00:01:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par endsync="id(a1)">

<audio id="a1" clip-begin="smpte=00:01:00" clip-end="smpte=00:01:30" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par endsync="id(a2)">

<audio id="a2" clip-begin="smpte=00:03:00" clip-end="smpte=00:03:30" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
<par endsync="id(a3)">

<audio id="a3" clip-begin="smpte=00:04:00" clip-end="smpte=00:05:00" src="http://mserv.com/MPEG/movie0a.mp2"/>
</par>
</switch>
</seq>
</body>
</smil>

```

2000

2001

2002

FIG. 20

DTD:
<!ELEMENT alt (condition*,pos?)>
<!ATTLIST alt type %types: #REQUIRED
format %formats; #REQUIRED
src CDATA #REQUIRED>
<!ELEMENT condition (#PCDATA)>

FIG. 21A

STRUCTURE DESCRIPTION DATA

<all typed"Image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
<condition>narrow band</condition>
</alt>

FIG. 21B

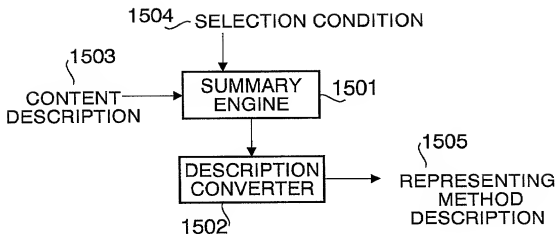


FIG. 22

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program2.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2)">

<!ELEMENT contents    (par|mediaObject)+>
<!ATTLIST contents    title CDATA #REQUIRED>
<!ELEMENT par         (mediaObject)+>
<!ELEMENT mediaObject (segment+)>
<!ATTLIST mediaObject type %types; "audiovideo"
                        format %formats; #REQUIRED
                        src CDATA #REQUIRED>

<!ELEMENT segment     EMPTY>
<!ATTLIST segment     start CDATA #REQUIRED
                        end CDATA #REQUIRED
                        score NMTOKEN #REQUIRED> } 2301
  
```

FIG. 23

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">

<contents title="Movie etc.">
  <mediaObject type="audio video" format="mpeg1" src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:00:00" end="00:01:00" score="1"/>
    <segment start="00:01:00" end="00:02:00" score="3"/>
    <segment start="00:02:00" end="00:03:00" score="4"/>
    <segment start="00:03:00" end="00:04:00" score="5"/>
    <segment start="00:04:00" end="00:05:00" score="3"/>
  </mediaObject>
</contents>

```

2401

FIG. 24

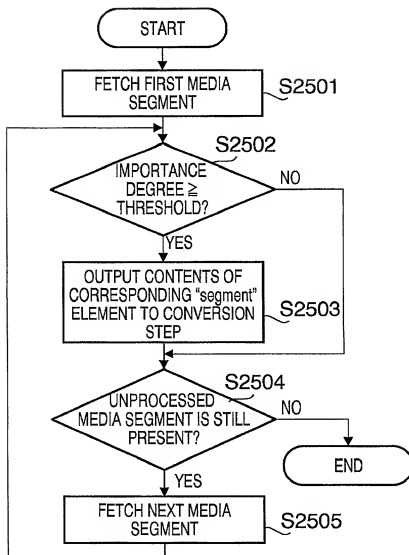


FIG. 25

EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">
<contents title="Movie etc.">
  <mediaObject type="audiovideo" format="mpeg1" src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:02:00" end="00:03:00" score="4">
      <segment start="00:03:00" end="00:04:00" score="5">
        </mediaObject>
      </contents>
    </mediaObject>
  </contents>

```

2601

FIG. 26

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM "http://mserv.com/DTD/program2.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video" format="mpeg1" src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00" end="00:01:00" score="1"/>
      <segment start="00:01:00" end="00:02:00" score="3"/>
      <segment start="00:02:00" end="00:03:00" score="4"/>
      <segment start="00:03:00" end="00:04:00" score="5"/>
      <segment start="00:04:00" end="00:05:00" score="3"/>
    </mediaObject>
    <mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00" end="00:01:00" score="1"/>
      <segment start="00:01:00" end="00:02:00" score="3"/>
      <segment start="00:02:00" end="00:03:00" score="5"/>
      <segment start="00:03:00" end="00:04:00" score="5"/>
      <segment start="00:04:00" end="00:05:00" score="3"/>
    </mediaObject>
  </par>
</contents>

```

Diagrammatic annotations on the XML document:

- A bracket labeled **2701** groups the five `<segment>` elements under the first `<mediaObject type="video">` tag.
- A bracket labeled **2702** groups the five `<segment>` elements under the second `<mediaObject type="audio">` tag.
- A bracket labeled **2703** groups the two `<mediaObject>` tags.
- A bracket labeled **2704** groups the two `<segment>` elements at the end of the document (under the second `<mediaObject type="audio">` tag).

FIG. 27

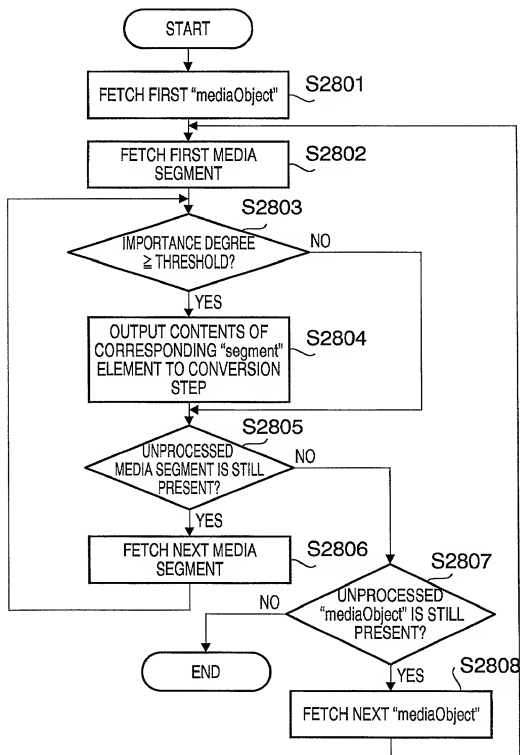


FIG. 28

EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program2.dtd">
<contents title="Movie etc.">
  <par>
    <mediaObject type="video" format="mpeg1" src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:02:00" end="00:03:00" score="4">
        <segment start="00:03:00" end="00:04:00" score="5">
          </mediaObject>
        </segment>
      </segment>
    </mediaObject>
    <mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:02:00" end="00:03:00" score="5">
        <segment start="00:03:00" end="00:04:00" score="5">
          </mediaObject>
        </segment>
      </segment>
    </mediaObject>
  </par>
</contents>

```

FIG. 29

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program3.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2)">

<!ELEMENT  contents   (par|mediaObject)+>
<!--ATTLIST contents   title CDATA #REQUIRED-->
<!ELEMENT  par        (mediaObject)+>
<!ELEMENT  mediaObject (segment)>
<!--ATTLIST mediaObject
      type      %types;      "audiovideo"
      format    %formats;    #REQUIRED
      src       CDATA        #REQUIRED-->

<!--ELEMENT segment
<!--ATTLIST segment
      start     CDATA        #REQUIRED
      end       CDATA        #REQUIRED
      score     NMTOKEN      #REQUIRED--> } 3001

<!--ELEMENT alt
<!--ATTLIST alt
      type      %types;      #REQUIRED
      format    %formats;    #REQUIRED
      src       CDATA        #REQUIRED-->

<!--ELEMENT pos
<!--ATTLIST pos
      start     CDATA        #REQUIRED
      end       CDATA        #REQUIRED-->

```

FIG. 30

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:00:00"end="00:01:00"score="1">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:00:00"end="00:01:00"/>
      </alt>
    </segment>
    <segment start="00:01:00"end="00:02:00"score="3">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:01:00"end="00:01:30"/>
      </alt>
    </segment>
    <segment start="00:02:00"end="00:03:00"score="4">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:02:00"end="00:03:00"/>
      </alt>
    </segment>
    <segment start="00:03:00"end="00:04:00"score="5">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00"end="00:03:30"/>
      </alt>
    </segment>
    <segment start="00:04:00"end="00:05:00"score="3">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:04:00"end="00:05:00"/>
      </alt>
    </segment>
  </mediaObject>
</contents>
```

FIG. 31

EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```

</xml version="1.0">
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">
<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpg">
    <segment start="00:02:00"end="00:03:00"score="4">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
      </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:02:00"end="00:03:00"/>
      </alt>
    </segment>
    <segment start="00:03:00"end="00:04:00"score="5">
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
      </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <pos start="00:03:00"end="00:03:30"/>
      </alt>
    </segment>
  </mediaObject>
</contents>

```

FIG. 32

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00"score="1">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg"></alt>
      </segment>
      <segment start="00:01:00"end="00:02:00"score="3">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg"></alt>
      </segment>
      <segment start="00:02:00"end="00:03:00"score="4">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg"></alt>
      </segment>
      <segment start="00:03:00"end="00:04:00"score="5">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg"></alt>
      </segment>
      <segment start="00:04:00"end="00:05:00"score="3">
        <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg"></alt>
      </segment>
    </mediaObject>
    <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00"end="00:01:00"score="1">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:00:00"end="00:01:00"/>
        </alt>
      </segment>
      <segment start="00:01:00"end="00:02:00"score="3">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:01:00"end="00:02:00"/>
        </alt>
      </segment>
      <segment start="00:02:00"end="00:03:00"score="5">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:02:00"end="00:03:00"/>
        </alt>
      </segment>
      <segment start="00:03:00"end="00:04:00"score="5">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:03:00"end="00:03:30"/>
        </alt>
      </segment>
      <segment start="00:04:00"end="00:05:00"score="3">
        <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:04:00"end="00:05:00"/>
        </alt>
      </segment>
    </mediaObject>
  </par>
</contents>
```

FIG. 33

EXAMPLE OF XML DOCUMENT OF INTERMEDIATE TYPE OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program3.dtd">
<contents title="Movie etc.">
  <par>
    <mediaObject type="video" format="mpeg1" src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:02:00" end="00:03:00" score="4">
        <alt type="image" format="jpeg" src="http://mserv.com/Image/s2.jpg">
          </alt>
        </segment>
      <segment start="00:03:00" end="00:04:00" score="5">
        <alt type="image" format="jpeg" src="http://mserv.com/Image/s3.jpg">
          </alt>
        </segment>
      </mediaObject>
    <mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:02:00" end="00:03:00" score="5">
        <alt type="image" format="jpeg" src="http://mserv.com/MPEG/movie0a.mp2">
          <pos start="00:02:00" end="00:03:00"/>
        </alt>
      </segment>
    <segment start="00:03:00" end="00:04:00" score="5">
      <alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00" end="00:03:30"/>
      </alt>
    </segment>
  </mediaObject>
</par>
</contents>

```

FIG. 34

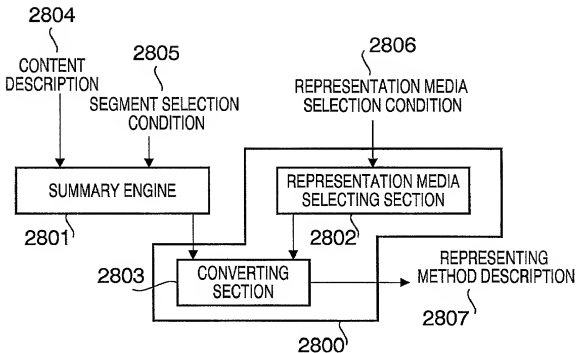


FIG. 35

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program4.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types      "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats    "(mpeg1|mpeg2)">

<!ELEMENT contents    (par|mediaObject)+>
<!ATTLIST contents    title CDATA #REQUIRED>
<!ELEMENT par         (mediaObject)+>
<!ELEMENT mediaObject (segment)>
<!ATTLIST mediaObject type %types; "audiovideo"
                      format %formats; #REQUIRED
                      src CDATA #REQUIRED>

<!ELEMENT segment     (pointOfView)*>3601
<!ATTLIST segment     start CDATA #REQUIRED
                      end CDATA #REQUIRED>

<!ELEMENT pointOfView EMPTY>
<!ATTLIST pointOfView viewpoint CDATA #REQUIRED
                      score NMTOKEN #REQUIRED> }3602
  
```

FIG. 36

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program4.dtd">
<contents title="Movie etc.">
  <mediaObject type="audiovideo" format="mpeg1" src="http://mserv.com/MPEG/movie0v.mpg">
    <segment start="00:00:00" end="00:01:00">
      <pointOFView viewPoint="pov0" score="1"/>
      <pointOFView viewPoint="pov1" score="1"/>
    </segment>
    <segment start="00:01:00" end="00:02:00">
      <pointOFView viewPoint="pov0" score="5"/>
    </segment>
    <segment start="00:02:00" end="00:03:00">
      <pointOFView viewPoint="pov1" score="5"/>
    </segment>
    <segment start="00:03:00" end="00:04:00">
      <pointOFView viewPoint="pov0" score="3"/>
      <pointOFView viewPoint="pov1" score="4"/>
    </segment>
    <segment start="00:04:00" end="00:05:00">
      <pointOFView viewPoint="pov0" score="2"/>
    </segment>
  </mediaObject>
</contents>

```

FIG. 37

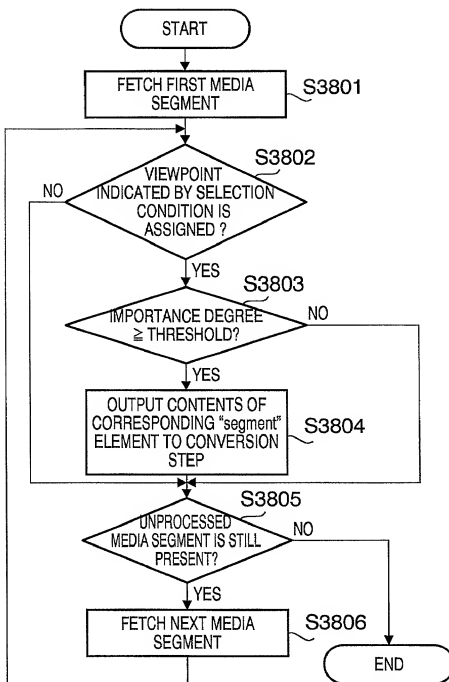


FIG. 38

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program4.dtd">

<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00">
        <pointOfView viewPoint="pov0"score="1"/>
        <pointOfView viewPoint="pov1"score="1"/>
      </segment>
      <segment start="00:01:00"end="00:02:00">
        <pointOfView viewPoint="pov0"score="5"/>
      </segment>
      <segment start="00:02:00"end="00:03:00">
        <pointOfView viewPoint="pov1"score="5"/>
      </segment>
      <segment start="00:03:00"end="00:04:00">
        <pointOfView viewPoint="pov0"score="3"/>
        <pointOfView viewPoint="pov1"score="4"/>
      </segment>
      <segment start="00:04:00"end="00:05:00">
        <pointOfView viewPoint="pov0"score="2"/>
      </segment>
    </mediaObject>
    <mediaObject type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
      <segment start="00:00:00"end="00:01:00">
        <pointOfView viewPoint="pov0"score="1"/>
        <pointOfView viewPoint="pov1"score="1"/>
      </segment>
      <segment start="00:01:00"end="00:02:00">
        <pointOfView viewPoint="pov0"score="5"/>
      </segment>
      <segment start="00:02:00"end="00:03:00">
        <pointOfView viewPoint="pov1"score="5"/>
      </segment>
      <segment start="00:03:00"end="00:04:00">
        <pointOfView viewPoint="pov0"score="3"/>
        <pointOfView viewPoint="pov1"score="3"/>
      </segment>
      <segment start="00:04:00"end="00:05:00">
        <pointOfView viewPoint="pov0"score="2"/>
      </segment>
    </mediaObject>
  </par>
</contents>
```

FIG. 39

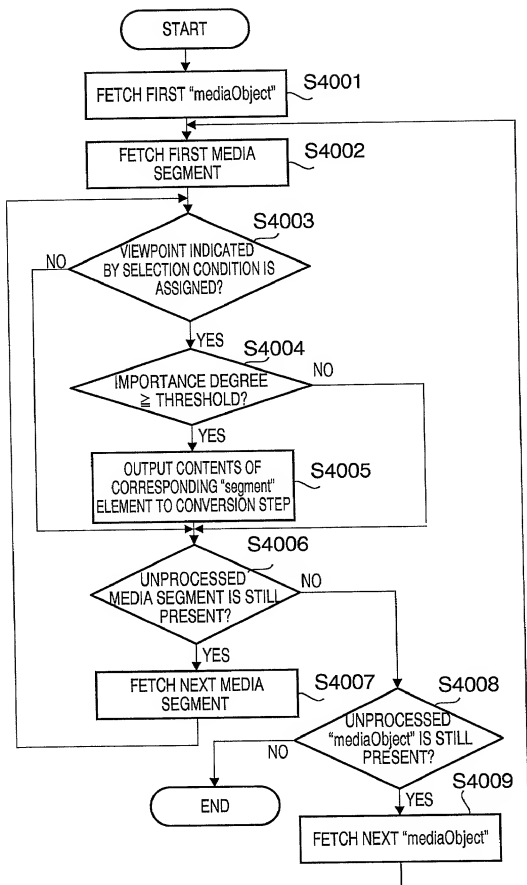


FIG. 40

EXAMPLE OF DTD OF STRUCTURE DESCRIPTION DATA (program5.dtd)

```

<?xml version="1.0"?>
<!ENTITY % types "(audio|video|image|audiovideo|audioimage)">
<!ENTITY % formats "(mpeg1|mpeg2|gif|jpeg)">

<!ELEMENT contents (par|mediaObject)+>
<!ATTLIST contents title CDATA #REQUIRED>
<!ELEMENT par (mediaObject+)>
<!ELEMENT mediaObject (segment)>
<!ATTLIST mediaObject type %types; "audiovideo"
format %formats; #REQUIRED
src CDATA #REQUIRED>

<!ELEMENT segment (alt*)>
<!ATTLIST segment start CDATA #REQUIRED
end CDATA #REQUIRED>

<!ELEMENT alt (pointOfView*,pos?)>
<!ATTLIST alt type %types; #REQUIRED
format %formats; #REQUIRED
src CDATA #REQUIRED> } 4101

<!ELEMENT pointOfView EMPTY>
<!ATTLIST pointOfView viewpoint CDATA #REQUIRED
score NMTOKEN #REQUIRED>

<!ELEMENT pos EMPTY>
<!ATTLIST pos start CDATA #REQUIRED
end CDATA #REQUIRED>

```

FIG. 41

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```
<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program5.dtd">

<contents title="Movie etc.">
  <mediaObject type="audiovideo"format="mpeg1"src="http://mserv.com/MPEG/movie0.mpg">
    <segment start="00:00:00"end="00:01:00">
      <pointOfView viewPoint="pov0"score="1"/>
      <pointOfView viewPoint="pov1"score="1"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s0.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:00:00"end="00:01:00"/>
      </alt>
    </segment>
    <segment start="00:01:00"end="00:02:00">
      <pointOfView viewPoint="pov0"score="5"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s1.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:01:00"end="00:01:30"/>
      </alt>
    </segment>
    <segment start="00:02:00"end="00:03:00">
      <pointOfView viewPoint="pov1"score="5"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s2.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:02:00"end="00:03:00"/>
      </alt>
    </segment>
    <segment start="00:03:00"end="00:04:00">
      <pointOfView viewPoint="pov0"score="3"/>
      <pointOfView viewPoint="pov1"score="4"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s3.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:03:00"end="00:03:30"/>
      </alt>
    </segment>
    <segment start="00:04:00"end="00:05:00">
      <pointOfView viewPoint="pov0"score="2"/>
      <alt type="image"format="jpeg"src="http://mserv.com/Image/s4.jpg">
        </alt>
      <alt type="audio"format="mpeg1"src="http://mserv.com/MPEG/movie0a.mp2">
        <pos start="00:04:00"end="00:05:00"/>
      </alt>
    </segment>
  </mediaObject>
</contents>
```

FIG. 42

EXAMPLE OF XML DOCUMENT OF STRUCTURE DESCRIPTION DATA

```

<?xml version="1.0"?>
<!DOCTYPE contents SYSTEM"http://mserv.com/DTD/program5.dtd">
<contents title="Movie etc.">
  <par>
    <mediaObject type="video"format="mpeg1"src="http://mserv.com/MPEG/movie0v.mpv">
      <segment start="00:00:00"end="00:01:00">
        <pointOfView viewPoint="pov0"score="1"/>
        <pointOfView viewPoint="pov1"score="1"/>
        <alt type="image"format="jpeg"src="http://mserv.com/image/s0.jpg">
        </alt>
      </segment>
      <segment start="00:01:00"end="00:02:00">
        <pointOfView viewPoint="pov0"score="5"/>
        <alt type="image"format="jpeg"src="http://mserv.com/image/s1.jpg">
        </alt>
      </segment>
      <segment start="00:02:00"end="00:03:00">
        <pointOfView viewPoint="pov1"score="5"/>
        <alt type="image"format="jpeg"src="http://mserv.com/image/s2.jpg">
        </alt>
      </segment>
      <segment start="00:03:00"end="00:04:00">
        <pointOfView viewPoint="pov0"score="3"/>
        <pointOfView viewPoint="pov1"score="4"/>
        <alt type="image"format="jpeg"src="http://mserv.com/image/s3.jpg">
        </alt>
      </segment>
      <segment start="00:04:00"end="00:05:00">
        <pointOfView viewPoint="pov0"score="2"/>
        <alt type="image"format="jpeg"src="http://mserv.com/image/s4.jpg">
        </alt>
      </segment>
    </mediaObject>
  </par>

```

FIG. 43


```

<mediaObject type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
<segment start="00:00:00" end="00:01:00" score="1">
<pointOfView viewPoint="pov0" score="1"/>
<pointOfView viewPoint="pov1" score="1"/>
<alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
<pos start="00:00:00" end="00:01:00"/>
</alt>
</segment>
<segment start="00:01:00" end="00:02:00">
<pointOfView viewPoint="pov0" score="5"/>
<alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
<pos start="00:01:00" end="00:02:00"/>
</alt>
</segment>
<segment start="00:02:00" end="00:03:00">
<pointOfView viewPoint="pov1" score="5"/>
<alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
<pos start="00:02:00" end="00:03:00"/>
</alt>
</segment>
<segment start="00:03:00" end="00:04:00">
<pointOfView viewPoint="pov0" score="3"/>
<pointOfView viewPoint="pov1" score="3"/>
<alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
<pos start="00:03:00" end="00:03:30"/>
</alt>
</segment>
<segment start="00:04:00" end="00:05:00">
<pointOfView viewPoint="pov0" score="2"/>
<alt type="audio" format="mpeg1" src="http://mserv.com/MPEG/movie0a.mp2">
<pos start="00:04:00" end="00:05:00"/>
</alt>
</segment>
</mediaObject>
</par>
</contents>

```

FIG. 44

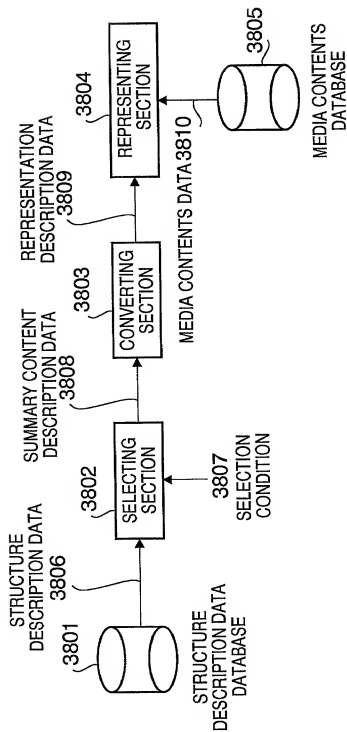


FIG. 45

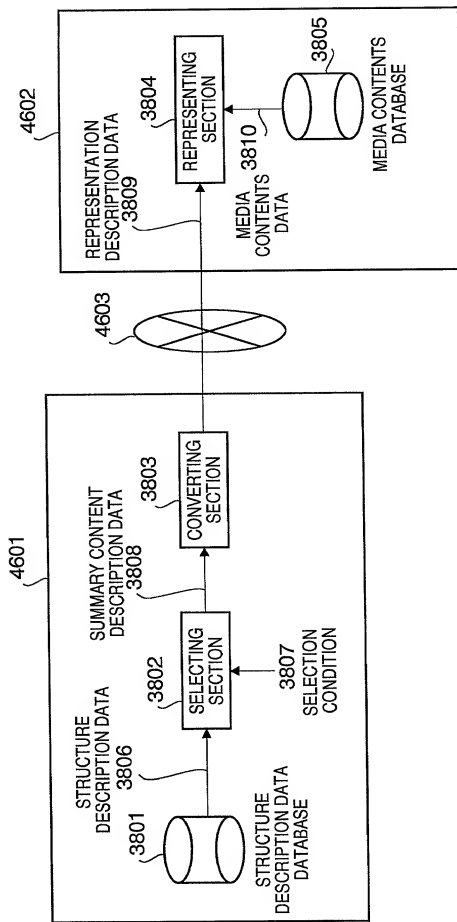


FIG. 46

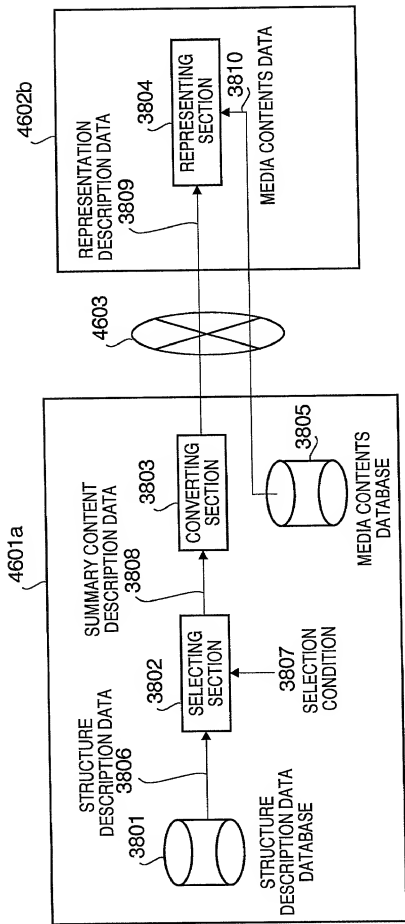


FIG. 47

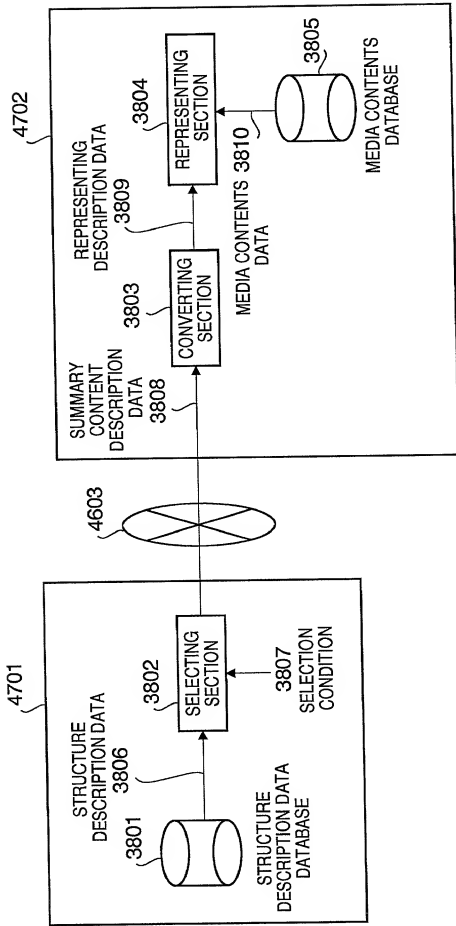


FIG. 48

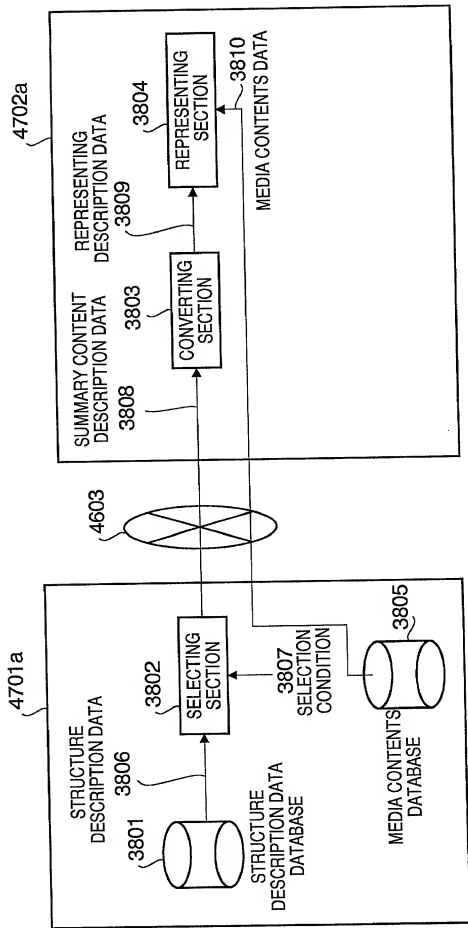


FIG. 49

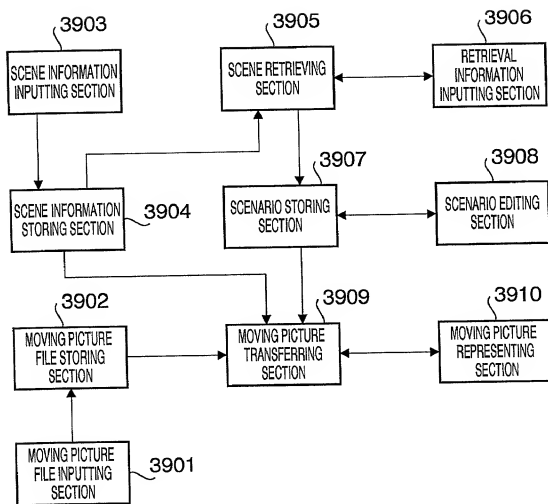


FIG. 50